Report: Minntac West Tailings Basin Seep Wetland Replacement Plan - Hyd
Team: Colleen Allen, Avery Cota-Guertin

Comment ID	Page	Para/Sentence
1	Application p.4, Appendix A - Figure 6	
2	Application p.3	"Additional drainage swales may be constructed at the SW corner of the project (Seep C) and the NW corner of the project (Seep #13) depending upon conditions encountered during construction."
3	Appendix B p. 6-9	"The perforated pipe of the french drain will be hydraulically connected to the concrete catch basin to convey the collected seepage water (Drawing No. H339306-M-G-615)."
4	Application p.3	"A fifteen foot perimeter around pump stations and catch basins is used to define the area of wetland impacts for these facilities."
5	Appendix A - Figure 4	
6	Appendix A - Figure 7	
7	Application p. 4, Appendix A - Figure 4	"The elevation of the french drain pipe within Wetland W13B/W13H will be at 840 feet, or approximately eleven feet below the normal water elevation of 851 feet and three feet below the approximate bottom elevation of the wetland, or 843 feet."
8	Application p. 4, Appendix A - Figure 4	"The elevation of the french drain pipe within Wetland W13B/W13H will be at 840 feet, or approximately eleven feet below the normal water elevation of 851 feet and three feet below the approximate bottom elevation of the wetland, or 843 feet."
9	Application p. 4, Appendix A - Figure 4	"The elevation of the french drain pipe within Wetland W13B/W13H will be at 840 feet, or approximately eleven feet below the normal water elevation of 851 feet and three feet below the approximate bottom elevation of the wetland, or 843 feet."
10	Appendix B - Drawing No. 339306-M-G-601, 339306-M-G-603, 339306-M-G-608	
11	Appendix B - Drawing No. 339306-M-G-601	

rology Comments

DNR Comments (10/20/14)	DNR Comments (7/10/15)
Drainage swales are not identified as wetland/hydrologic impacts in Appendix A - Figure 6. Please provide justification as to why drainage swales should not be considered wetland/hydrologic impacts. Also, please provide more detail on drainage swale construction including depth and sideslopes. Contradictory to Appendix A - Figure 6, Application p.4 states "Wetland impacts associated with drainage swales are assumed to be limited to the actual footprint of the drainage swale." Please discuss if and how drainage swales impact wetlands and if drainage swales should be identified as hydrologic impacts.	Not applicable due to design change.
If drainage swales are determined to result in wetland/hydrologic impacts, please include the potential location and estimated impacted area from the construction and operation of drainage swales.	Not applicable due to design change.
Please provide us with or direct us to the location of Drawing No. H339306-M-G-615. Will other collection systems (drainage swales, catch basins) be equipped with perforated pipe to direct flow into the catch basins?	Not applicable due to design change.
Please discuss on how the fifteen foot perimeter was determined for wetland impacts surrounding catch basins.	Not applicable due to design change.
Please provide rational for proposed road location at Catchment 2. Can these wetland impacts be further minimized?	Not applicable due to design change.
Please discuss how pumping catch basin in Catchment 4 will not cause drawdown in W32A.	Not applicable due to design change.
Please explain how the french drain will be constructed through W13B and W13A. Perhaps show a cross section illustrating the slope and depth of french drain pipe relative to the ground surface and W13B normal water surface.	Not applicable due to design change.
After W13B is completely drained east of the access road, what is the expected head difference between the drained and undrained W13B?	Not applicable due to design change.
If wetland seperation sheet pilings are installed 15 feet into the ground, will additional sheet piling be added to account for the head difference on the east side of the access road?	Not applicable due to design change.
The proposed surface seepage collection system does not appear to fully capture water from seeps A, B, and 13. Please discuss the placement of the seepage collection system relative to surface seeps A, B, and 13.	Not applicable due to design change.
A portion of Catchment area 1 will be redirected away from wetlands to the west (wetlands 34B, 34C and undelineated wetlands to the west of these.) Please discuss potential indirect impacts to these wetlands.	Incorporated into new comment #4.

12	Appendix D	

For the analysis of the East Tailings Basin Seepage Collection project, please provide comparison of vegetation plots before and after construction to the extent that they are available.	Incorporated into new comment #19.

Report: **Minntac West Tailings Basin Seepage Collection System Re-Design - Hydrology/Wetland Comments**
Team: **Colleen Allen, Avery Cota-Guertin, Jennifer Engstrom**

Comment ID	Page	Para/Sentence	DNR Comments (07/10/2015)	Minntac Response
1	5	The water level would be held at its current elevation…	Please specify current (and proposed) elevation of wetland W32A.	
2	5	The wetlands outside of the sheet pile will not be directly impacted as a result because the sheet pile will be driven into the native soils only far enough to minimize back draining the wetland into the collection system while allowing existing groundwater flows to contribute to the wetland hydrology.	Please define "far enough", and how the depth the sheet pile will be driven into native soils will be determined.	
3	All Figures		Please label all wetland areas. Particularly noted unlabeled wetlands include W34A, W34B, W34C, W26G, W26H (Fig 1A), W26, W24, (Fig 1B) W13C, W13D, W13E (Fig2).	
4	Figure 1A		Please define the entire catchment for Seep C. The Hatch Report, Appendix C drawing no. 339306-M-G-601/602, outlines a catchment for seep C. Please describe the potential for indirect wetland impacts from severing the upstream catchment from downstream wetlands.	
5	Figure 1A		DNR will consider the possible need for monitoring wetlands downstream of seeps with particular attention to wetlands downstream of seep C. Further discussion is recommended on this issue. It would be helpful to include the Corps and PCA in discussions.	
6	Multiple Figures		Please provide wetland edge and water level elevations for all wetlands at edge of proposed ditches, culverts and lift stations. In particular, please include wetlands W34B (fig 1A), W26 and W23G (fig 1B), W13E (fig 2), and W7A (Fig 3.)	
7	Figure 1B		Seep A and Seep B are outside of the sheet pile. Please describe how the Seep A and Seep B will be fully captured by the sheet pile.	
8	Figure 1B		Will the sheet pile be driven into bedrock? If not, please describe how much water will be captured by the seepage collection system and how much water will be allowed to travel through the aquifer.	
9	Figure 1B		Please describe the planned ditch construction with regards to depth and width of the ditch.	
10	Figure 1B		Please provide information for the area north of this figure. Sheet pile is cut off on this figure.	
11	Figure 2		Please explain the estimated head difference between the planned ditch and wetland W13B.	
12	Figure 2		Please describe the planned ditch construction with regards to depth and width.	
13	Figure 2		Please provide detail for proposed constructed swale at W11D. Please include elevations of proposed swale and wetland W11D.	
14	Figure 4		Please describe how the sheet pile will be connected to ensure the full capture of Seep J.	
15	Figure 4		Please explain the flow path of Seep J towards the planned catchment construction (i.e. instead of flowing north toward wetland 32A.)	
16	Table 1		Please describe proposed water level changes to wetlands 13E (0.01 acres) and 13D (a portion of 0.30 acres.)	
17	General		The timeline for a WCA decision is due to expire on 7-30-15. In order to extend this timeline, Minntac would need to provide a request (typically a 60 day extension.) If that is the intent, please do so by 7-23-15.	
18	General		A Permit to Mine (PTM) Amendment will be needed to include the seepage collection system in the PTM. Please submit a PTM Amendment Application.	
19	From previous application		For the analysis of the East Tailings Basin Seepage Collection project, please provide comparison of vegetation plots before and after construction to the extent that they are available.	